

What is claimed is:

1. A converter, comprising at least means for sensing the currents fed to the electric motor powered by the converter, the means for current detection being situated inside the converter,

wherein the signals of the are being fed to a nonlinear filter, whose output signals are fed to an additional filter that is connected to an analog-to-digital converter.

2. The converter as recited in at least one of the preceding claims,

wherein the analog-to-digital converter is integrated in a microcontroller or microprocessor.

3. The converter as recited in at least one of the preceding claims,

wherein the nonlinear filter is a run-up transmitter.

4. The converter as recited in at least one of the preceding claims,

wherein the run-up transmitter includes a comparator and an integrator.

5. The converter as recited in at least one of the preceding claims,

wherein the additional filter is a PT1 filter.

6. The converter as recited in at least one of the preceding claims,

wherein the value corresponding to the rated current of the converter is attainable for the run-up transmitter in a time between 5 and 10 μ s.

7. The converter as recited in at least one of the preceding claims,
wherein the PT1 filter has a time constant having a value
between 15 and 25 μ s, in particular, approximately 20 μ s.